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10/520,403	01/06/2005	Rainer Mangold	1703 1334US	5066

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GERMANY

EXAMINER
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SONNETT, KATHLEEN C

ART UNIT	PAPER NUMBER
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3731

MAIL DATE	DELIVERY MODE
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09/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/520,403	Applicant(s) MANGOLD ET AL.	
	Examiner Kathleen Sonnett	Art Unit 3731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 24-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection as necessitated by amendment. The objection to claim 34 and the 35 USC 112 2<sup>nd</sup> paragraph rejections of claims 25-27, 32-34, 36, and 38 previously presented in the office action mailed 3/7/3007 have been withdrawn.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 24, 25, 27-33, 42, and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US 5,972,463) in view of Neff (US 6,120,568) and Muhle et al. (US 4,510,271). Martin discloses a method including the steps of preparing a fiber layer (col. 20, ll. 10-11), introducing meltable glue powder particles onto one side of the fiber layer, and thermally bonding the particles to the fiber layer (col. 22, ll. 58-67; col. 23, ll. 23-30). Martin discloses heating the particles but fails to expressly disclose heating the particles to melt only the surface region thereof while avoiding complete melting of the particles thereby smoothing the surfaces wherein the heated particles subsequently cool and their surfaces solidify to bond to the fiber layer.

4. However, Neff teaches that abrasive particles may be bonded to a surface by heating the particles such that only a surface portion of the particles becomes molten and bonds to immediately surrounding particles and structure (see col. 9, ll. 5-18). The abrasive particles of

Art Unit: 3731

Neff are subjected to a magnetic field such that they bond together to form cones. However, Muhle teaches that heating the surface of an abrasive particle can result in a smoothing out of the sharp edges. This results in more rounded or spherical particles which can increase packing of the particles. It would have been obvious to one skilled in the art to modify the method of Martin to include heating the particle such that their surface melts in order to allow the granules to bond to both each other and the substrate surface as taught by Neff. Heating the surfaces will result in smoothing out of any sharp edges so that the particles of Martin will be more rounded and uniform, allowing for better packing as well as more uniform abrasive characteristics across the device.

5. Regarding claim 46, Martin in view of Neff and Muhle teaches a pad made by the method as stated above.

6. Regarding claim 28, Martin discloses a non-woven material for the fiber (col. 4, ll. 33).

7. Regarding claim 24, Martin discloses that said particles comprise a meltable thermoplastic glue powder containing a plastic (col. 22, lines 60-67). While Martin does not specifically disclose a polyamide, polyethylene, or polyester, it is old and well-known in the art that these are commonly used plastics for abrasive particles. Further, Martin teaches that these materials have thermal bonding properties (col. 17, line 31-col. 18, line 6). Therefore it would have been obvious for the plastic of Martin to contain a polyamide, polyethylene, or polyester.

8. Regarding claims 25, 27, and 32, Martin fails to disclose the particular particle sizes with diameters of 50 to 400 um and a surface density of 5 to 300 grams per square meter. However, it would have been obvious to have larger diameter particles and more numerous particles, because this would merely change the coefficient of friction and would vary according to how rough the skin surface was. Therefore it would have been obvious to modify the device of Martin to meet these limitations.

9. Regarding claims 29-31, Martin discloses micro staple fibers that can be bonded in similar way as the macro staple fibers of the fiber pad with abrasive particles, but in the cited embodiment, macro fibers are described and used. Regarding claim 29, Martin teaches a fiber material consists essentially of or comprises synthetic micro staple fibers and a fiber material consisting essentially of synthetic macro staple fibers (col. 1, lines 32-39 and lines 56-61).

Regarding claim 30, Martin teaches macro staple fibers have a length of at least 7 mm (col. 7, lines 16-19). Regarding claim 31, Martin teaches macro staple fibers are polyester (PES) or viscose fibers (col. 17 line 31 - col. 18 line 6). The size of the fibers does not change the function of the device or how the device can be made. For makeup removal or other similar uses, it would have been obvious to make the device out of microfibers instead of macrofibers so that it is not as rough on skin. Therefore it would have been obvious to make the device of Martin with microfibers, because it would be equally as durable for the applicant's intended use of the device.

10. Regarding claim 33, Martin fails to disclose a fraction of micro staple fibers of 15 to 85 % per weight. Changing the % per weight of the microfibers just changes the absorbency capabilities of the pad. An increase in the absorptive properties allows the device to be used for a longer period of time. Therefore it would have been obvious to adjust the % per weight range of the micro staple fibers.

11. **Claims 26, 34, 35, and 41** are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 5,972,463) in view of Neff and Muhle as applied to claim 46 above and further in view of McMeekin et al (US 2003/0031703). Martin discloses the invention substantially as claimed except for failing to disclose the following:

12. Regarding claim 26, McMeekin teaches abrasive particles with a height, perpendicular to a plane of flat extension of said fiber layer, of 50 to 400  $\mu\text{m}$  (par. 31; height of the particles is

Art Unit: 3731

0.08 mm). This particle height is within the range defined by the claim limitation, and the device of McMeekin is similar in structure and function to that of Martin. Therefore it would have been obvious to choose a particle height of 0.08 mm.

13. Additionally regarding claim 26, the different size limitations are not enough to distinguish from the prior art. See *In re: Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), wherein the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Therefore it would have been obvious to have a particle size within the ranges defined by the claim.

14. Regarding claims 34 and 35, McMeekin teaches the pad comprises cotton noils (par. 13). Cotton fibers would increase the hydrophilicity and flexibility of the pad, making it more desirable to the user to use for cleaning more sensitive areas of skin. Therefore it would have been obvious to add cotton fibers, or noils, to the pad. McMeekin fails to disclose the % per weight of the cotton fibers but by adding cotton fibers of up to 72 % per weight to the device, the absorbency of the device would be increased, thus improving its cleansing capabilities.

Therefore it would have been obvious to have cotton fibers of up to 72 % per weight.

15. Regarding claim 41, McMeekin specifically teaches use of a pad for a cleaning of or make-up removal on skin (par. 6 and 10). The device of Martin could also be used to clean the skin. It may be more desirable to use for a more rigorous cleaning, such as wiping mud off of bare feet, but is still capable of cleaning skin. Therefore it would have been obvious to use the device of Martin to clean skin.

16. **Claims 36-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al (US 5,972,463) in view of Neff and Muhle as applied to claim 46 above and further in view of Pike et al (US 5,605,749). Martin discloses the invention substantially as claimed except for failing to disclose the following:

17. Regarding claim 36, Martin discloses heat meltable binding fibers (col. 4 lines 30-32) but does not disclose a weight percent fraction. However, Pike teaches heat meltable binding fibers having a weight percent fraction within the range of 10 to 20 weight % (col. 6, lines 43-51). This weight percent fraction does not change the functional capabilities of the device of Martin.

Therefore it would have been obvious to choose these weight percent fractions.

18. Regarding claim 37, Martin further discloses binding fibers are multi-component fibers or bi-component fibers (col. 4, lines 12-16; col. 5, lines 11-16).

19. Regarding claim 38, Martin discloses filaments of diameter greater than 1.3 to 10 dtex, but teaches that textile sized filaments are between 1 to 20 denier, which overlaps the range of 1.3 to 10 dtex, or when converted, 1.4 to 11.1 denier (col. 4, lines 62-65). These limitations of size are not different enough to distinguish from the prior art. See *In re: Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), wherein the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device.

20. Further regarding claim 38, Martin fails to disclose the length of fibers between 3 to 60 mm. However, these limitations of size are not enough to distinguish the instant application of claim 38 from the prior art. See explanation of *in re Gardner* above. Additionally, Pike teaches a similar invention wherein the fiber length has a range that overlaps 3 to 60 mm (col. 4, lines 62-

67). Therefor it would have been obvious to have the device of Martin scaled down so that a fiber length is between 3 to 60 mm and 1.3 to 10 dtex.

21. Regarding claim 39, Martin further discloses bicomponent fibers that are co- polyester (CO-PES)/polyester (PES) bicomponent fibers (col. 17, line 31- col. 18, line 6; more specifically col. 17, lines 43-50).

22. Regarding claim 40, Martin further discloses that a melting temperature of said heat meltable binding fibers or of a low melting temperature component of said multi- component fibers is less than a melting point of micro staple fibers (col. 2, lines 5-13; col. 3, lines 62-65).

23. **Claims 42-44** are rejected under 35 U.S.C. 103(a) as being unpatentable over McMeekin et al. (US 2003/0031703) in view of Neff. McMeekin discloses the method substantially as claimed including the steps of preparing a fiber layer (par. 11 and 13), introducing meltable glue powder particles onto one side of the fiber layer (par. 24), and thermally bonding the particles to the fiber layer (par 24 discloses a melt process). Regarding claim 44, McMeekin also discloses that the meltable glue powder particles are introduced onto one side of the fiber layer in a non-uniform fashion using a template (par. 31 and 32). McMeekin discloses heating the particles but fails to disclose heating the particles to melt only the surface region thereof while avoiding complete melting of the particles thereby smoothing the surfaces wherein the heated particles subsequently cool and their surfaces solidify to bond to the fiber layer. McMeekin instead discloses completely melting the abrasive particles

24. However, Neff teaches that abrasive particles may be bonded to a surface by heating the particles such that only a surface portion of the particles becomes molten and bonds to immediately surrounding particles and structure (see col. 9, ll. 5-18). This is advantageous, as it would require less heat being applied to the granules. Since Neff teaches that sufficient bonding can occur when only the surface of abrasive particles are heated, it would have been obvious to



one skilled in the art to modify the method of McMeekin to heat the particles to melt only a surface region thereof instead of the entire particle as taught by Neff in order to reduce manufacturing costs by requiring less heat application to the granules.

25. Regarding claim 43, McMeekin in view of Neff does not specifically disclose distributing the meltable glue powder particles on one side of the fiber layer in a substantially uniform fashion, but teaches that the particles can be applied in any desired pattern (par. 25). Therefore it would have been obvious to also apply the particles in a substantially uniform fashion if that the desired pattern is to be substantially uniform coverage. This would be done by the same processes as that used when a more detailed pattern is desired, but without the use of the template disclosed by McMeekin (par. 31).

26. **Claim 45** is rejected under 35 U.S.C. 103(a) as being unpatentable over McMeekin et al (US 2003/0031703) in view of Neff as applied to claim 42 and further in view of Pike et al (US 5,605,749). McMeekin in view of Neff discloses the method substantially as claimed above including disclosure that the particles may be applied by any known method (par. 24), but fails to disclose thermal bonding of particles to the fiber layer by hot air or infrared radiation. However, Pike teaches that it is old and well known in the art to thermally bond elements together by both hot air and infrared processes to form a fiber layer with abrasive properties (col. 5, lines 6-16; lines 27-28). The use of hot air could heat the particles of McMeekin as they are being blown onto the fiber layer, thus avoiding having to separately heat the particles before they are blown onto the fiber layer as well as keeping them separated until they are applied to the fiber layer. Therefore it would have been obvious to heat the abrasive Components by hot air.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen Sonnett whose telephone number is 571-272-5576. The examiner can normally be reached on 7:30-5:00, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anh Tuan Nguyen can be reached on 571-272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCS 9/13/2007

  
GLENN K. DAWSON  
PRIMARY EXAMINER